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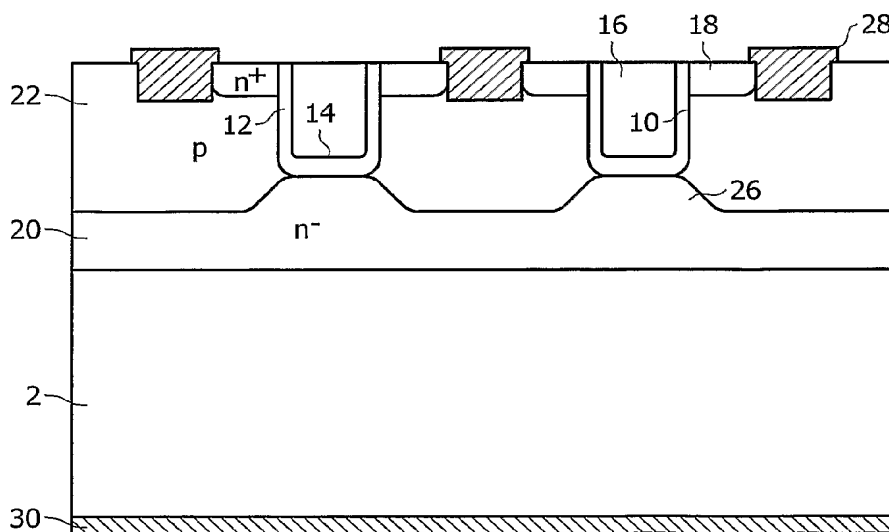
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(54) Title: TRENCH FIELD EFFECT TRANSISTOR AND METHOD OF MAKING IT



(57) Abstract: A method of manufacturing an insulated gate field effect transistor includes providing a substrate (2) having a low-doped region (4), forming insulated gate trenches (8) and implanting dopants of a first conductivity type at the base of the trenches (8). A body implant is implanted in the low-doped regions between the trenches; and diffused to form an insulated gate transistor structure in which the body implant diffuses to form a p-n junction between a body region (22) doped to have the second conductivity type above a drain region (20) doped to have the first conductivity type, the p-n junction being deeper below the first major surface between the trenches than at the trenches. The difference in doping concentration between the low-doped region (4) and the implanted region at the base of the trenches causes the difference in depth of the body-drain p-n junction formed in the diffusion step.



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